General

Name
ID# 31

Tychem® QC Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
37132 (front entry)
37133 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, flat back for external air supply, polyester face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Not tested

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 616, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 616, or go to www.dupont.com/tyvek/protective-apparel . No test data available for CW agents.
Recommended Use(s)	Crisis management (post decon), medical triage, and remediation

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	2 lb/ctn and 2 units/ctn
Package Size and Volume	16 in L x 10 1/4 in W x 14 1/8 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality
Color	Yellow, grey

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$68/carton
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials

Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	Suit bag included. Pass-throughs available. Must be ordered separately.

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd^2 Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 32

Tychem® SL Utility Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
41132 (front entry)
41133 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, flat back for external air supply, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m^2 GB and L: Greater than 6 h at 10 g/m^2 D: Greater than 3 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	16 in L x 10 1/4 in W x 14 1/8 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	White

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$85

Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	Suit bag included. Pass-throughs available. Must be ordered separately.

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd^2 Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 33

Tychem® SL Utility Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
41135 (front entry)
41635 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m^2 GB and L: Greater than 6 h at 10 g/m^2 D: Greater than 3 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	16 in L x 10 1/4 in W x 14 1/8 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	White

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$90
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd^2 Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
Tychem® SL Level B Fully Encapsulating Suit

ID# 34

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
42132 (front entry)
42133 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, flat back for external air supply, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m^2 GB and L: Greater than 6 h at 10 g/m^2 D: Greater than 3 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	2 lb/ctn and 2 units/ctn
Package Size and Volume	16 in L x 10 1/4 in W x 14 1/8 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	White

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$99/carton

Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	Suit bag included. Pass-throughs available. Must be ordered separately.

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd^2 Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 35

Tychem® SL Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
42135 (front entry)
42635 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m^2 GB and L: Greater than 6 h at 10 g/m^2 D: Greater than 3 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 621, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	3 lb/ctn and 1 units/ctn
Package Size and Volume	16 in L x 10 1/4 in W x 14 1/8 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality
Color	White

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$59

Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd^2 Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 36

Tychem® QC Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
63132 (front entry)
63133 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, flat back for external air supply, and polyester face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Not tested

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 616, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 616, or go to www.dupont.com/tyvek/protective-apparel . No test data available for CW agents.
Recommended Use(s)	Crisis management (post decon), medical triage, and remediation

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	16 in L x 10 1/4 in W x 14 1/8 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	Yellow, grey

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$71

Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	Suit bag included. Pass-throughs available. Must be ordered separately.

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd^2 Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 37

Tychem® BR Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
95132 (front entry)
95133 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, flat back for external air supply, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 648, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m^2 GB, HD, and VX: Greater than 12 h at 100 g/m^2 (total coverage) L: Greater than 2 h at 100 g/m^2 (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 636, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and gross decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	15 3/4 in L x 15 3/4 in W x 14 1/4 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	Yellow or olive drab

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

Unit Cost	$144
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd^2 Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 38

Tychem® BR Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
95135 (front entry)
95635 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 648, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m^2 GB, HD, and VX: Greater than 12 h at 100 g/m^2 (total coverage) L: Greater than 2 h at 100 g/m^2 (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 636, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and gross decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	15 3/4 in L x 15 3/4 in W x 14 1/4 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	Yellow or olive drab

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$177

Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd^2 Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 39

Tychem® BR Deluxe Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
95136 (front entry)
95636 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, expanded back for SCBA, and PVC/Teflon® face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against	Not specified
Toxic Industrial Materials (TIMs) Protected Against	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 648, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m^2 GB, HD, and VX: Greater than 12 h at 100 g/m^2 (total coverage) L: Greater than 2 h at 100 g/m^2 (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 636, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation,and gross decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	6 lb/ctn and 1 units/ctn
Package Size and Volume	22 in Lx 22 in W x 10 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	Yellow or olive drab

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

Unit Cost	$210
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Permeation Guide available
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd^2 Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 40

Tychem® TK Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
TK132 (front entry)
TK133 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, flat back for external air supply, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against	Not specified
Toxic Industrial Materials (TIMs) Protected Against	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 651, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m^2 (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 651, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and gross decon

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	15 3/4 in L x 15 3/4 in W x 14 1/4 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	High-visibility lime yellow

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

Unit Cost	$219
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	Suit bag included. Pass-throughs available. Must be ordered separately.

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd^2 Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 41

Tychem® TK Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
TK135 (front entry)
TK635 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against
Not specified

Toxic Industrial Materials (TIMs) Protected Against	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 651, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m^2 (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 651, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and gross decontamination
Physical Parameters	
Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	5 lb/ctn and 1 unit/ctn
Package Size and Volume	15 3/4 in L x 15 3/4 in W x 14 1/4 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	High-visibility lime yellow
Logistical Parameters	
Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$258
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials

Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd^2 Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 42

Tychem® TK Deluxe Level B Fully Encapsulating Suit

Technology
Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

Stock Number
TK136 (front entry)
TK636 (rear entry)

Protection Type
Level B, Percutaneous

Equipment Category
Level B, fully encapsulating, expanded back for SCBA, and PVC/Teflon® face shield

Availability
Commercially available

Current User(s)
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

Manufacturer
DuPont Tyvek® Protective Apparel
U.S. Highway #1 North
McBee, SC 29101
800–845–6962 (Tel)
843–335–8599 (Fax)
e-mail: tyvekinf@usa.dupont.com

Manufacturer Type
Domestic manufacturer

Developer
DuPont Protective Apparel

Source
DuPont Tyvek® Protective Apparel
e-mail: Mary-Ann.Daniel@usa.dupont.com
POC: M. A. Daniel
888–577–6960 (Tel)

Certification
Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request Document 595.

Biological Warfare (BW) Agents Protected Against	Not specified
Toxic Industrial Materials (TIMs) Protected Against	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 651, or go to www.dupont.com/tyvek/protective-apparel .
Duration of Protection	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m^2 (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m^2. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 651, or go to www.dupont.com/tyvek/protective-apparel .
Recommended Use(s)	Emergency response, crisis management, remediation, and gross decontamination

Physical Parameters

Sizes Available	S through XXXXL. Additional sizes available upon request.
Weight	8 lb/ctn and 1 units/ctn
Package Size and Volume	22 in L x 22 in W x 10 in H
Power Requirements	Not applicable
Material Type	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
Construction Type	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
Color	High-visibility lime yellow

Logistical Parameters

Ease of Use	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
Consumables	None
Maintenance Requirements	Visual inspection prior to use
Shelf Life	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
Transportability	Easily transported
Operational Limitations	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

Environmental Conditions	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
Unit Cost	$290
Maintenance Cost	Minimum labor cost for routine suit inspection
Warranty	90 d for workmanship and materials
Don/Doff Information	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
Use/Reuse	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
Launderability	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
Accessories	None

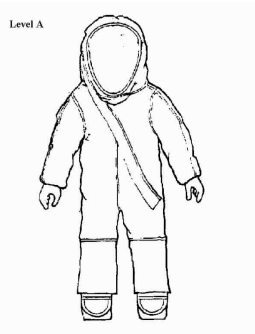
Special Requirements

Training Requirements	No special training required
Training Available	Yes. DuPont will provide specialized group training upon request.
Manuals Available	Technical data package and permeation guide with each suit
Surveillance Testing Requirements	Visual inspection (for holes and tears) prior to use
Support Equipment	Appropriate respiratory, foot, hand, and head protection
Testing Information	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd^2 Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1–877–797–5907 or go to www.dupont.com/tyvek/protective-apparel
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Compatible with EOD suit

General

Name
ID# 43

Disposable Toxicological Agent Protective Suit (DTAP)/Level A



Technology	DuPont Barricade, an impermeable nonwoven multi-laminate material
Stock Number	GEOMET P/N 38277
Protection Type	Level A, Percutaneous, and respiratory
Equipment Category	Level A toxicological agent protective suit, disposable
Availability	1 July 2001
Current User(s)	Not applicable
Manufacturer	GEOMET Technologies, Inc. 20251 Century Blvd., Suite 300 Germantown, MD 20874 POC: Jef Harris 301–428–9898 (Tel) 301–428–9482 (Fax)
Manufacturer Type	Domestic
Developer	GEOMET Technologies, Inc., Germantown, MD, under contract with the Office of Special Technology
Source	www.nbcprotect.com
Certification	Projected to be certified under NFPA 1994 and approved by the U.S. Army Material Command Chemical Agent Safety and Health Policy Action Committee (CASHPAC) for military use

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	Material swatches tested against GA, GB, GD, GF, t-HD, HN, L, and VX
Biological Warfare (BW) Agents Protected Against	Material is protective against bacteria, protozoans, rickettsia, toxins, and viruses. Biopenetration resistance testing in accordance with ASTM F 1671, Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

Toxic Industrial Materials (TIMs) Protected Against	Material is protective against the 21 chemicals listed in ASTM F 1001 and numerous other TIMs. For specific chemicals, refer to DuPont's Permeation Guide for Tychem Fabrics and the DuPont Tyvek Fax-on-Demand Data Service (800–558–9329).
Duration of Protection	Over 8 h for most chemicals
Recommended Use(s)	Military, Federal, State and local first responders to CB incidents, including IDLH and confined space entry and mitigation operations

Physical Parameters

Sizes Available	S, M, L, XL, XXL, and XXXL
Weight	Approximately 5 lb 6 oz for size small up to 6 lb for size XXXL
Package Size and Volume	From 24 in x 20 in × 9 in (2.5 ft^3) for size small to 29 in x 23 in x 10 in (to 3.86 ft^3) for size XXXL
Power Requirements	None; optional cooling system requires three size D alkaline batteries, which will last up to 4 h
Material Type	5 mil Tychem DP, which is an impermeable nonwoven multi-laminant material
Construction Type	Sewn and seams heat sealed with overtape
Color	Olive drab green

Logistical Parameters

Ease of Use	Level A DTAP suit features fully integrated sub-systems. Restrictions on mobility and flexibility include those normally associated with wearing an SCBA.
Consumables	None; if using optional cooling system, three size D alkaline batteries and ice are consumable items
Maintenance Requirements	None
Shelf Life	5 yr—Store at room temperature
Transportability	Suit will be sealed in a plastic bag
Operational Limitations	Operations are limited by the air capacity of the SCBA. Operations can be extended up to 4 h by using a rebreather with the optional cooling system to manage heat stress.
Environmental Conditions	The equipment is designed to operate under all common environmental conditions and climates; use is primarily limited by the SCBA operational parameters
Unit Cost	$494 to $513
Maintenance Cost	None
Warranty	1 yr (parts and labor)

Don/Doff Information	"Buddy" required for donning. System can be doffed by the user.
Use/Reuse	Level A suit is disposable. However, if not contaminated during emergency operations, suit can be downgraded for use as a training suit. Suits must be disposed after any liquid or vapor chemical exposure.
Launderability	Hand wash with mild detergent and biocide after each training use; suit can be laundered and reused as a training suit only.
Accessories	Gloves, integral booties, visor, and antifog compound. Cooling system is available as an option.

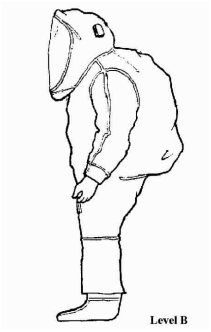
Special Requirements

Training Requirements	2 h for operation
Training Available	Yes
Manuals Available	Commercial operating manual
Surveillance Testing Requirements	None
Support Equipment	Biocide, chemical protective boots, and self-contained breathing apparatus (or rebreather). Level A DTAPS is compatible with all commercial SCBAs and rebreathers (closed circuit systems). Cooling system is available as an option, which requires ice or a freezer to freeze ice bottles. Also, the Communications-Applied Technology intrinsically-safe DWIS radio system is available as an option.
Testing Information	U.S. Army methyl salicylate (MeS) man-in-simulant test (MIST, TOP 10–2–022); passed ASTM Spray Test (ASTM F 1359–97); passed NFPA 1991, Overall Ensemble Inward Leakage Test [sulfur hexafluoride (SF6) test]; ASTM D 3786 Mullen burst = 190 psi; ASTM D 5034 Breaking strength–Grab (md/cd) = 99/95 lb; ASTM D 1117 Tearing strength–Trapezoid (md/cd) = 25/24 lb; ASTM D 751 = 45 lbf; ASTM D 2582 = 11 lbf; ASTM D 747 = 0.50 in-lbf
Applicable Regulations	29 CFR 1910.120
Health Hazards	All materials are considered non-hazardous. MSDS on Tychem DP material available upon request. Contaminated suits should be treated as hazardous waste and must be disposed of in accordance with established procedures, regulations, and laws. Contaminated garments should be landfilled, but can be incinerated.
Communications Interface Capability	Level A DTAPS is compatible with various commercial radio systems, such as the optional intrinsically-safe DWIS radio system
EOD Compatibility	Not to be used with fused munitions or in explosive or flammable atmospheres

General

Name ***Disposable Toxicological Agent Protective Suit (DTAP)/Level B***

ID# 44



Technology DuPont Barricade, an impermeable nonwoven multi-laminate material

Stock Number GEOMET P/N 38278

Protection Type Level B, Percutaneous, and respiratory

Equipment Category Level B toxicological agent protective suit, disposable

Availability 1 July 2001

Current User(s) Not applicable

Manufacturer

GEOMET Technologies, Inc.
20251 Century Blvd., Suite 300
Germantown, MD 20874
POC: Jef Harris
301–428–9898 (Tel)
301–428–9482 (Fax)

Manufacturer Type Domestic

Developer GEOMET Technologies, Inc., Germantown, MD, under contract with the Office of Special Technology

Source www.nbcprotect.com

Certification Projected to be certified under NFPA 1994

Operational Parameters

Chemical Warfare (CW) Agents Protected Against Material swatches tested against GA, GB, GD, GF, t-HD, HN, L, and VX

Biological Warfare (BW) Agents Protected Against Material is protective against bacteria, protozoans, rickettsia, toxins, and viruses. Biopenetration resistance testing in accordance with ASTM F 1671, Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

Toxic Industrial Materials (TIMs) Protected Against Material is protective against the 21 chemicals listed in ASTM F 1001 and numerous other TIMs. For specific chemicals, refer to DuPont's Permeation Guide for Tychem Fabrics and the DuPont Tyvek Fax-on-Demand Data Service (800–558–9329).

Duration of Protection	Over 8 h for most chemicals
Recommended Use(s)	Military, Federal, State and local first responders to CB incidents, including IDLH and nonconfined space entry and mitigation operations where less skin protection is required than Level A

Physical Parameters

Sizes Available	S, M, L, XL, XXL, and XXXL
Weight	Approximately 5 lb 6 oz for size small up to 6 lb for size XXXL
Package Size and Volume	From 24 in x 20 in × 9 in (2.5 ft^3) for size small to 29 in x 23 in x 10 in (to 3.86 ft^3) for size XXXL
Power Requirements	None; optional cooling system requires three size D alkaline batteries, which will last up to 4 h
Material Type	3 mil Tychem LV, which is an impermeable nonwoven multi-laminant material
Construction Type	Sewn and seams heat sealed with overtape
Color	Olive drab green

Logistical Parameters

Ease of Use	Level B DTAP suit features fully integrated sub-systems. Restrictions on mobility and flexibility include those normally associated with wearing an SCBA.
Consumables	None; if using optional cooling system, three size D alkaline batteries and ice are consumable items
Maintenance Requirements	None
Shelf Life	5 yr—Store at room temperature
Transportability	Suit will be sealed in a plastic bag
Operational Limitations	Operations are limited by the air capacity of the SCBA. Operations can be extended up to 4 h by using a rebreather with the optional cooling system to manage heat stress.
Environmental Conditions	The equipment is designed to operate under all common environmental conditions and climates; use is primarily limited by the SCBA operational parameters
Unit Cost	$225 to $300
Maintenance Cost	None
Warranty	1 yr (parts and labor)
Don/Doff Information	“Buddy” required for donning. System can be doffed by the user.

Use/Reuse	Level B suit is disposable. However, if not contaminated during emergency operations, suit can be downgraded for use as a training suit. Suits must be disposed after any liquid or vapor chemical exposure.
Launderability	Hand wash with mild detergent and biocide after each training use; suit can be laundered and reused as a training suit only
Accessories	Gloves, integral booties, visor, and antifog compound. Cooling system is available as an option.

Special Requirements

Training Requirements	2 h for operation
Training Available	Yes
Manuals Available	Commercial operating manual
Surveillance Testing Requirements	None
Support Equipment	Biocide, chemical protective boots, and self-contained breathing apparatus (or rebreather). Level B DTAPS is compatible with all commercial SCBAs and rebreathers (closed circuit systems). Cooling system is available as an option, which requires ice or a freezer to freeze ice bottles. Also, the C-AT intrinsically-safe DWIS radio system is available as an option.
Testing Information	U.S. Army methyl salicylate (MeS) man-in-simulant test (MIST, TOP 10–2–022); passed ASTM Spray Test (ASTM F 1359–97); passed NFPA 1991, Overall Ensemble Inward Leakage Test [sulfur hexafluoride (SF6) test]; ASTM D 751 = 35 lbf; ASTM D 258= 7 lbf; ASTM D 747 = 0.50 in-lbf
Applicable Regulations	29 CFR 1910.120
Health Hazards	All materials are considered nonhazardous. MSDS on Tychem LV material available upon request. Contaminated suits should be treated as hazardous waste and must be disposed of in accordance with established procedures, regulations, and laws. Contaminated garments should be landfilled, but can be incinerated.
Communications Interface Capability	Level B DTAPS is compatible with various commercial radio systems, such as the optional intrinsically-safe DWIS radio system
EOD Compatibility	Not to be used with fused munitions or in explosive or flammable atmospheres

General

Name ***EUROLITE NBC-Protection Suit***

ID# 45

Picture Not Available

Technology	Rolamit-NBC Barrierfilm, a 7-layer polyolefin film laminated in staggered angles with three layers on either side with a middle barrier of EVOH; impermeable; self-extinguishing
Stock Number	Stock number of MoD Austria: 4240–0–775–8701
Protection Type	Percutaneous
Equipment Category	Suit
Availability	In production since 1993
Current User(s)	Various special warfare forces in US. For Navy: Mr. Tim Gill, NBC officer, COMNAVSPECWARCOM, San Diego, tel 619 437 3940; Austrian Army; Swiss Civil Defense; Austrian Telecom; Austrian Ministry of Interior
Manufacturer	Goetzloff GmbH Schirmerstrasse 28, A–4060 Leonding-Linz, Austria POC: Mr. Lewis B. Sykes (U.S. Liaison) 703–504–0260 (Tel) e-mail: LBS1328@aol.com
Manufacturer Type	Foreign
Developer	Goetzloff GmbH
Source	Goetzloff GmbH
Certification	Ministry of Defense, Austria

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	Classical nerve and blister agents; test documents can be supplied on request
Biological Warfare (BW) Agents Protected Against	Classical BW agents; test documents can be supplied on request
Toxic Industrial Materials (TIMs) Protected Against	TIMs tested according ASTM F 1001
Duration of Protection	Depends on the situation; e.g., in excess of 24 h against Mustard in worst-case scenarios
Recommended Use(s)	Tactical and crisis management

Physical Parameters

Sizes Available	S, M, L, XL
Weight	650 grams (23 ounces)
Package Size and Volume	7.1 in x 7.1 in x 2 in
Power Requirements	None
Material Type	Rolamit-NBC Barrierfilm, a 7-layer polyolefin film laminated in staggered angles with three layers on either side with a middle barrier of EVOH; impermeable; self-extinguishing
Construction Type	Yes; heat sealed
Color	Standard color is military green, other colors on request

Logistical Parameters

Ease of Use	User has complete freedom of movement; glove has three fingers
Consumables	None
Maintenance Requirements	None
Shelf Life	Indefinite when stored in original wrapper
Transportability	Not applicable
Operational Limitations	Not specified
Environmental Conditions	Designed to be worn under common environmental conditions found in the field
Unit Cost	$37/two-piece uniform in lots of 10000 uniforms
Maintenance Cost	None
Warranty	20 yr in unconditioned store
Don/Doff Information	No assistance required for donning or doffing
Use/Reuse	Reusable
Launderability	Can be laundered multiple times with standard detergents and maintain their effectiveness; standard decon procedures can be used
Accessories	None

Special Requirements

Training Requirements	About 5 min or less for instructor to don and explain features of uniform
Training Available	None required
Manuals Available	None required
Surveillance Testing Requirements	Visual inspection before and after each use

Support Equipment	None
Testing Information	Test data can be obtained on request
Applicable Regulations	Our products are tested by TNO, which certifies NATO standard for our products
Health Hazards	None; incineration results in no toxic residues
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

General

Name
ID# 46

Chemturion® Suit: Model 13 Level A

Technology
Cloropel®, an enhanced CPE with improved performance characteristics. Impermeable chlorinated polyethylene. Contains thermoplastic materials, self-extinguishing.

Stock Number
Model 13 SCBA, reusable

Protection Type
Level A, Percutaneous and respiratory (SCBA)

Equipment Category
Level A, suit

Availability
In production since 1980

Current User(s)
Fyr Fyter Sales and Service
608 S. Broad Street
Mobile, AL 36603

Manufacturer
ILC Dover, Inc.
1 Moonwalker Road
Frederica, DE 19946–2080
POC: Rhonda Haller
800–631–9567 (Tel)
302–335–1320 (Fax)

Manufacturer Type
Domestic

Developer
ILC Dover, Inc.

Source
Internet: www.ilcdover.com
E-mail: haller@ilcdover.com

Certification
Not applicable for reusable Level A suits

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
HD, GB, and VX

Biological Warfare (BW) Agents Protected Against
Provides PF of 100000. Suit is air and gas tight, and operates at a positive pressure. A different model (same suit material) is used at Atlanta CDC and Ft. Detrick.

Toxic Industrial Materials (TIMs) Protected Against
Tested against ASTM F1001 list of chemicals and against jet fuels

Duration of Protection
Depends on the chemical challenge

Recommended Use(s)
Valuable for remote HAZMAT spill cleanup. Designed to be worn with a wide range of self-contained breathing systems.

Physical Parameters

Sizes Available	Three sizes: M (5' 3" to 5' 9"), L (5' 7" to 6' 1"), and XL (6' 0" to 6' 5")
Weight	5 lb
Package Size and Volume	22 in x 6 in x 26 in
Power Requirements	Not applicable
Material Type	Impermeable chlorinated polyethylene. Contains thermoplastic materials, self-extinguishing.
Construction Type	RF heat sealed seams
Color	Light blue

Logistical Parameters

Ease of Use	Unrestricted movement, range of motion, and field of view. Lightweight design lessens fatigue.
Consumables	None
Maintenance Requirements	None
Shelf Life	>5 yr
Transportability	Transportable via air, ground, or sea
Operational Limitations	Not specified
Environmental Conditions	Operational: 0 °F to 125 °F. Storage: 0 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain.
Unit Cost	$1.4K to $1.6K
Maintenance Cost	$0
Warranty	90 d on defects in materials and workmanship
Don/Doff Information	Self-donning and doffing
Use/Reuse	Reusable (unlimited)
Launderability	No limit to machine or hand washing. Use mild soap solution.
Accessories	Wrist rings and visor splash shields

Special Requirements

Training Requirements	Very low—follow instructions in user's manual
Training Available	None required
Manuals Available	User's manual included with each suit
Surveillance Testing Requirements	After initial use, perform a pressure test before each use
Support Equipment	Breathing air, gloves, and boots

Testing Information	Available upon request
Applicable Regulations	Not applicable
Health Hazards	None
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

General

Name *Chemturion® Suit: Model 35 Level A Laboratory Suit*

ID# 47

Technology Cloropel®, an enhanced CPE with improved performance characteristics. High volume airflow, made possible by multiple exhaust valves, supplies added cooling. Hood contains press-polished optical grade 40 mil vinyl in the visual areas. Internal easement permits head movement for 300°of vision.

Stock Number Model 35 Laboratory Suit, reusable

Protection Type Level A, Percutaneous and respiratory

Equipment Category Level A totally encapsulating biological/chemical protective suit. Suit entry is from the front.

Availability Not specified

Current User(s) Not specified

Manufacturer
ILC Dover, Inc.
1 Moonwalker Road
Frederica, DE 19946–2080
POC: Rhonda Haller
800–631–9567 (Tel)
302–335–1320 (Fax)

Manufacturer Type Domestic

Developer ILC Dover, Inc

Source
Internet: www.ilcdover.com
E-mail: haller@ilcdover.com

Certification Not applicable for reusable Level A suits

Operational Parameters

Chemical Warfare (CW) Agents Protected Against HD, GB, and VX

Biological Warfare (BW) Agents Protected Against Provides PF of 100000. Suit is air and gas tight, and operates at a positive pressure. Used at Atlanta CDC and Ft. Detrick, as well as pharmaceutical companies.

Toxic Industrial Materials (TIMs) Protected Against Tested against ASTM F1001 list of chemicals and against jet fuels

Duration of Protection Depends on the chemical challenge

Recommended Use(s) Ideal for laboratory and clean use. High visibility hood allows for enhanced vision. Offers >100000 protection factor rating.

Physical Parameters

Sizes Available	The suit is available in four sizes to fit 5' 0" to 66". A belt is added to support optional equipment and to allow for a more conformal fit.
Weight	4 lb
Package Size and Volume	22 in x 6 in x 26 in
Power Requirements	Not applicable
Material Type	Cloropel® (chlorinated ploye thylene) an enhanced CPE, 20 mil material. Visor is 40 mil vinyl.
Construction Type	RF heat-sealed seams. Suit is designed to minimize seams and permit user mobility without excessive suit shifting. The seams are dielectrically heat-sealed. The suit incorporates molded wrist cuffs with mating rubber wrist rings for attachment of your own chemical protective gloves. The suit legs terminate in integral booties worn inside your own chemical protective boots. Outer extruded closure in conjunction with inner restraint zipper. Outer extruded closure utilizes two parallel sealing lips, providing an effective penetration barrier.
Color	Blue

Logistical Parameters

Ease of Use	Unrestricted movement, range of motion, and field of view. Lightweight design lessens fatigue. Internal easement permits head movement for 300° of vision.
Consumables	None
Maintenance Requirements	None
Shelf Life	>5 yr
Transportability	Transportable via air, ground, or sea
Operational Limitations	Not specified
Environmental Conditions	Operational: 0 °F to 125 °F. Storage: 0 °F to 165 F. Resistant and operable in salt fog, high/low humidity, and rain.
Unit Cost	$2K
Maintenance Cost	$0
Warranty	90 d on defects in materials and workmanship
Don/Doff Information	Self-donning and doffing
Use/Reuse	Reusable (unlimited)
Launderability	No limit to machine or hand washing. Use mild soap solution.
Accessories	Optional liquid cooling system (ILC COOL VEST* Model 19) is available to be worn under the garment. High purity filters and suit air conditioners are available. Wrist rings and visor splash shields.

Special Requirements

Training Requirements	Very low—follow instructions in user's manual
Training Available	None required
Manuals Available	User's manual included with each suit

Surveillance Testing Requirements	After initial use, perform a pressure test before each use
Support Equipment	Breathing air, gloves, and boots
Testing Information	Available upon request
Applicable Regulations	Not applicable
Health Hazards	None
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

General

Name

Chemturion® Suit: Ready 1 Model 91 Level A Chemical Protective Suit

ID# 48

Technology

Multiple-fil and tough substrate composite material—high-barrier fabric. Impermeable, specialty laminate. Ready 1 material may emit low order of toxicity when burning.

Stock Number

Ready 1 Model 91, limited use

Protection Type

Level A, Percutaneous and respiratory, and limited use

Equipment Category

Level A, limited use chemical protective suit

Availability

In production since 1994

Current User(s)

Safety Kleen Corporation, 385 Turner Way, Aston, PA 19014; and Onyx Industrial Services, 6161 Executive Boulevard, Huber Heights, OH.

Manufacturer

ILC Dover, Inc.
1 Moonwalker Road
Frederica, DE 19946–2080
POC: Rhonda Haller
800–631–9567 (Tel)
302–335–1320 (Fax)

Manufacturer Type

Domestic

Developer

ILC Dover, Inc.

Source

Internet: www.ilcdover.com
E-mail: haller@ilcdover.com

Certification

Not applicable for OSHA and NIOSH. None for NFPA.

Operational Parameters

Chemical Warfare (CW) Agents Protected Against

HD, GB

Biological Warfare (BW) Agents Protected Against

Designed to be gas and air tight and to operate at positive pressure

Toxic Industrial Materials (TIMs) Protected Against

Tested against over 200 chemicals and jet fuels. Achieved breakthrough times greater than 480 min for over 95 % of chemicals.

Duration of Protection

Greater than 480 min for >95 % of chemicals

Recommended Use(s)

Chemical emergency

Physical Parameters

Sizes Available	Four sizes: M (5' 3" to 5' 9"), L (5' 7" to 6' 1"), XL (6' 0" to 6' 5"), and XXL (6' 2" to 6' 8")
Weight	4 lb
Package Size and Volume	22 in x 6 in x 26 in
Power Requirements	Not applicable
Material Type	Impermeable, specialty laminate. Ready 1 material may emit low order of toxicity when burning. Multiple-fil and tough substrate composite material that is flexible, chemically resistant and economical.
Construction Type	Put together with sewn and heat-sealed seams that lock in protection while having superb physical strength. The rear zipper is protected by a cover flap that provides an extra protection barrier.
Color	Light blue

Logistical Parameters

Ease of Use	Unrestricted movement, range of motion, and field of view. Lightweight design lessens fatigue. Lightweight and tapered to give a fit that doesn't keep getting in the way. The rear zipper is protected by a cover flap that provides an extra protection barrier. Oversized sleeves allow maneuverability inside the suit.
Consumables	Not specified
Maintenance Requirements	Not specified
Shelf Life	>5 yr
Transportability	Transportable via air, ground, or sea
Operational Limitations	Not specified
Environmental Conditions	Operational: 0 °F to °125 F. Storage: 0 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain.
Unit Cost	$525
Maintenance Cost	$0
Warranty	90 d on defects in materials and workmanship
Don/Doff Information	Requires assistance of one person to don and doff
Use/Reuse	Designed for up to five uses
Launderability	Hand clean with mild soap solution
Accessories	Wrist rings and gloves

Special Requirements

Training Requirements	Very low—follow instructions in user's manual
Training Available	None required
Manuals Available	User's manual included with each suit

Surveillance Testing Requirements	After initial use, perform a pressure test before each use
Support Equipment	Breathing air, gloves, and boots
Testing Information	When tested in accordance with ASTM F739 it showed no permeation breakthrough after 8 h of exposure to the ASTM F1001 list of 21 chemicals and gases
Applicable Regulations	Not applicable
Health Hazards	None
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

General

Name
ID# 49

Chemturion® Suit: Model 84 Level A Total Encapsulating Suit

Technology
Cloropel®, an enhanced chemically resistant CPE with improved performance characteristics. Hood/visor has chemical resistant, polyester splash visor.

Stock Number
Model 84 (SCBA and SCBA/Airline Models), reusable

Protection Type
Level A, Percutaneous and respiratory

Equipment Category
Level A, totally encapsulating chemical protective suit. It is used in conjunction with an internal SCBA to provide breathing air and positive internal pressure. Front suit entry.

Availability
In production since 1980

Current User(s)
Fyr Fyter Sales and Service
608 S. Broad Street
Mobile, AL 36603

Manufacturer
ILC Dover, Inc.
1 Moonwalker Road
Frederica, DE 19946–2080
POC: Rhonda Haller
800–631–9567 (Tel)
302–335–1320 (Fax)

Manufacturer Type
Domestic

Developer
ILC Dover, Inc.

Source
Internet: www.ilcdover.com
E-mail: haller@ilcdover.com

Certification
Not applicable for Reusable Level A suits

Operational Parameters

Chemical Warfare (CW) Agents Protected Against
HD, GB, VX

Biological Warfare (BW) Agents Protected Against
Provides PF of 100000. Suit is air and gas tight, and operates at a positive pressure. A different model (same suit material) is used at Atlanta CDC and Ft. Detrick.

Toxic Industrial Materials (TIMs) Protected Against
Tested against ASTM F1001 list of chemicals and against jet fuels

Duration of Protection
Depends on the chemical challenge

Recommended Use(s)
Valuable for remote HAZMAT spill cleanup. Designed to be worn with a wide range of self-contained breathing systems.

Physical Parameters

Sizes Available	Three sizes: M (5' 3" to 5' 9"), L (5' 7" to 6' 1"), and XL (6' 0" to 6' 5")
Weight	5 lb
Package Size and Volume	22 in x 6 in x 26 in
Power Requirements	Not applicable
Material Type	Impermeable chlorinated polyethylene. Contains thermoplastic materials, self-extinguishing.
Construction Type	Seams are dielectrically heat-sealed. The suit incorporates molded wrist cuffs with mating rubber wrist rings for attachment of your own chemical protective gloves. The suit legs terminate in integral booties worn inside your own chemical protective boots. Integral splashguards keep materials from entering the top of the boots.
Color	Light blue

Logistical Parameters

Ease of Use	Unrestricted movement, range of motion, and field of view (full 180° of vision). Lightweight design lessens fatigue.
Consumables	None
Maintenance Requirements	None
Shelf Life	>5 yr
Transportability	Transportable via air, ground, or sea
Operational Limitations	Not specified
Environmental Conditions	Operational: 0 °F to 125 °F. Storage: 0 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain.
Unit Cost	$1.5K to $1.9K
Maintenance Cost	$0
Warranty	90 d on defects in materials and workmanship
Don/Doff Information	Self-donning and doffing
Use/Reuse	Reusable (unlimited)
Launderability	No limit to machine or hand washing. Use mild soap solution.
Accessories	The ILC Cool Vest* Model 19 liquid cooling system for use under the suit. HAZMAT Bags store the protective gear. Antifog visors help prevent fogging. Replacement wrist rings and splash visors.

Special Requirements

Training Requirements	Very low—follow instructions in user's manual
Training Available	None required
Manuals Available	User's manual included with each suit. A data package is provided with each suit that contains information regarding operation maintenance, testing and material compatibility. (Document #0000–72900).

Surveillance Testing Requirements	After initial use, perform a pressure test before each use
Support Equipment	Breathing air, gloves, and boots
Testing Information	Available upon request
Applicable Regulations	Not applicable
Health Hazards	None
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

General

Name ***IPE (Individual Protection Equipment)***

ID# 50

Picture Not Available

Technology	Charcoal impregnated inner. Liquid chemical resistant outer fabric. Permeable fabric.
Stock Number	Various depending on configuration
Protection Type	Percutaneous
Equipment Category	Suit
Availability	In production 2000
Current User(s)	Earlier version used by Canadian Department of National Defense
Manufacturer	Irvin Aerospace Canada Ltd. P.O. Box 280 479 Central Avenue Fort Erie, ON L2A 5M9 POC: Doug Eaton 905–871–6510 (Tel) 905–871–6534 (Fax)
Manufacturer Type	Foreign
Developer	Irvin Aerospace Canada Ltd., with support of Canadian Department of National Defense
Source	Irvin Aerospace Canada Ltd. POC: Doug Eaton 905 871–6510 (Tel) POC: Neil Pitts Inside Sales Manager NBC 905 871–6510 (Tel) 905 871–6534 (Fax) 905 993–1975 (Cell) Npitts@irvincanada.com
Certification	Canadian Department of National Defense

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	All known military chemical agents
Biological Warfare (BW) Agents Protected Against	None
Toxic Industrial Materials (TIMs) Protected Against	Under study
Duration of Protection	24 h (in most cases)

Recommended Use(s)	Not specified

Physical Parameters

Sizes Available	XXS to XXL (minimum seven sizes)
Weight	1 lb
Package Size and Volume	14 in x 14 in x 8 in
Power Requirements	Not applicable
Material Type	Charcoal impregnated inner. Liquid chemical resistant outer fabric.
Construction Type	Sewn
Color	Per customer requirements

Logistical Parameters

Ease of Use	Fully compatible with combat gear
Consumables	Not applicable
Maintenance Requirements	Not applicable
Shelf Life	10 yr minimum
Transportability	Fully transportable
Operational Limitations	Full military qualification
Environmental Conditions	All common military environmental conditions
Unit Cost	Approximately $800 depending upon configuration. Volume dependant.
Maintenance Cost	Not applicable
Warranty	1 y
Don/Doff Information	None required
Use/Reuse	Reusable
Launderability	Laundering: clean in soapy water. Decon: operator dependent.
Accessories	Carrier bag, NBC boots, NBC gloves, and NBC gas mask

Special Requirements

Training Requirements	1 h
Training Available	Yes, operator and trainer courses available
Manuals Available	User/maintenance/repair
Surveillance Testing Requirements	Visual inspection
Support Equipment	None

Testing Information	Available from Irvin Aerospace Canada Ltd.
Applicable Regulations	Not applicable
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Fully compatible with combat gear

General

Name ***Kappler Responder® Total Encapsulating Level A (Gas-Tight) Suit***

ID# 51

Technology	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Stock Number	41350 (front entry)
Protection Type	Level A, Percutaneous (gas-tight)
Equipment Category	Level A, total encapsulating (gas-tight) suit with PVC faceshield, flat back, and exhaust valves
Availability	In stock
Current User(s)	Fire departments, HAZMAT response teams, and law enforcement
Manufacturer	Kappler Safety Group 70 Grimes Drive Guntersville, AL 35976 www.kappler.com POC: Kendra Barclay 256–505–4000 (Tel) 256–582–1163 (Fax) email: kbarclay@kappler.com
Manufacturer Type	Domestic
Developer	Kappler Protective Apparel and Fabrics 70 Grimes Drive Gunterville, AL 35976
Source	www.kappler.com
Certification	OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	HD, GB, GD, L, and VX
Biological Warfare (BW) Agents Protected Against	Not applicable
Toxic Industrial Materials (TIMs) Protected Against	POC Kappler for permeation guides

Duration of Protection	POC Kappler for permeation guides
Recommended Use(s)	Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

Physical Parameters

Sizes Available	S, M, L, XL, 2X, and 3X
Weight	9 lb/4.1 kg, one per case
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Construction Type	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
Color	Blue

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "Training Use Only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, causing the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
Unit Cost	POC customer service for pricing
Maintenance Cost	Product is designed for limited use
Warranty	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling which results from conditions beyond the control of the manufacturer.
Don/Doff Information	See Level A instruction manual for instructions on donning and doffing
Use/Reuse	See Level A instruction manual for suggestions on decontamination
Launderability	See Level A instruction manual for suggestions on decontamination
Accessories	Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements	Some instruction required
Training Available	Level A instruction manual, training video, and Suit Smart CD
Manuals Available	Level A instruction manual

Surveillance Testing Requirements	Visual inspection and in the case of Level A garments pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
Support Equipment	Appropriate respiratory equipment
Testing Information	See attached permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler Responder® Total Encapsulating Level A Suit***

ID# 52

Technology	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Stock Number	41550 (front entry) 41551 (rear entry)
Protection Type	Level A, Percutaneous
Equipment Category	Level A, total encapsulating suit, expanded back, and front/rear entry
Availability	In stock
Current User(s)	Fire departments, HAZMAT response teams, and law enforcement
Manufacturer	Kappler Safety Group 70 Grimes Drive Guntersville, AL 35976 www.kappler.com POC: Kendra Barclay 256–505–4000 (Tel) 256–582–1163 (Fax) email: kbarclay@kappler.com
Manufacturer Type	Domestic
Developer	Kappler Protective Apparel and Fabrics 70 Grimes Drive Gunterville, AL 35976
Source	www.kappler.com
Certification	OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	HD, GB, GD, L, and VX
Biological Warfare (BW) Agents Protected Against	Not applicable
Toxic Industrial Materials (TIMs) Protected Against	POC Kappler for permeation guides
Duration of Protection	POC Kappler for permeation guides

Recommended Use(s)	Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

Physical Parameters

Sizes Available	S, M, L, XL, 2X, and 3X
Weight	Average packaging weight is 9 lb
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Construction Type	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
Color	Blue

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

Unit Cost

POC customer service for pricing

Maintenance Cost

Product is designed for limited use

Warranty

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of the product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

Don/Doff Information

See Level A instruction manual for instructions on donning and doffing

Use/Reuse

See Level A instruction manual for suggestions on decontamination

Launderability

See Level A instruction manual for suggestions on decontamination

Accessories

Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements

Some instruction required

Training Available	Level A instruction manual, training video, and Suit Smart CD
Manuals Available	Level A Instruction Manual
Surveillance Testing Requirements	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
Support Equipment	Appropriate respiratory equipment
Testing Information	See permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler Total Encapsulating Level A Suit***

ID# 53

Technology	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Stock Number	41580 (front entry) 41581 (rear entry)
Protection Type	Level A, Percutaneous
Equipment Category	Level A, total encapsulating suit, expanded back, exhaust valves; HAZMAT version includes double taped seams, FEP overlay lens, and 4H/Butyl glove combination
Availability	In stock
Current User(s)	Fire departments, HAZMAT response teams, and law enforcement
Manufacturer	Kappler Safety Group 70 Grimes Drive Guntersville, AL 35976 www.kappler.com POC: Kendra Barclay 256–505–4000 (Tel) 256–582–1163 (Fax) email: kbarclay@kappler.com
Manufacturer Type	Domestic
Developer	Kappler Protective Apparel and Fabrics 70 Grimes Drive Gunterville, AL 35976
Source	www.kappler.com
Certification	None

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	HD, GB, GD, L, and VX
Biological Warfare (BW) Agents Protected Against	Not applicable
Toxic Industrial Materials (TIMs) Protected Against	POC Kappler for permeation guides
Duration of Protection	POC Kappler for permeation guides

Recommended Use(s)	Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

Physical Parameters

Sizes Available	S, M, L, XL, 2X, and 3X
Weight	Average packaging weight is 9 lb
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Construction Type	Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabrics.
Color	Blue

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

Unit Cost

POC customer service for pricing

Maintenance Cost

Product is designed for limited use

Warranty

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

Don/Doff Information

See Level A instruction manual for instructions on donning and doffing

Use/Reuse

See Level A instruction manual for suggestions on decontamination

Launderability

See Level A instruction manual for suggestions on decontamination

Accessories

Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements

Some instruction required

Training Available	Level A instruction manual, training video, and Suit Smart CD
Manuals Available	Level A instruction manual
Surveillance Testing Requirements	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
Support Equipment	Appropriate respiratory equipment
Testing Information	See permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler Responder® Plus Total Encapsulating Level A Suit***

ID# 54

Technology Multiple barrier films laminated to both sides of tough composite substrate material. View window made of 40 mil press polished PVC with overlay of 5 mil FEP Teflon permanently attached over visor.

Stock Number 43580 (front entry)
43581 (rear entry)

Protection Type Level A, Percutaneous

Equipment Category Level A, total encapsulating suit, expanded back, and exhaust valves

Availability In stock

Current User(s) REC's Customers:
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Department of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

Manufacturer Kappler Safety Group
70 Grimes Drive
Guntersville, AL 35976
www.kappler.com
POC: Kendra Barclay
256–505–4000 (Tel)
256–582–1163 (Fax)
email: kbarclay@kappler.com

Manufacturer Type Domestic

Developer Kappler Protective Apparel and Fabrics
70 Grimes Drive
Gunterville, AL 35976

Source www.kappler.com

Certification None

Operational Parameters

Chemical Warfare (CW) Agents Protected Against HD, GB, GD, L, and VX

Biological Warfare (BW) Agents Protected Against Not applicable

Toxic Industrial Materials (TIMs) Protected Against	Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide
Duration of Protection	>480 min
Recommended Use(s)	Broad range of chemical protection

Physical Parameters

Sizes Available	S, M, L, XL, 2X, and 3X
Weight	9 lb/4.1 kg, one per case
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Multiple barrier film laminated to both sides of a tough composite substrate material. View window made of 40 mil press polished PVC with overlay of 5 mil FEP Teflon permanently attached over visor.
Construction Type	Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabric.
Color	High visibility orange

Logistical Parameters

Ease of Use	Suit accommodates a 1 h breathing apparatus, most respirator masks, and the use of a hard hat
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	Temperature service range: -85 °F to 200 °F

Environmental Conditions	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
Unit Cost	POC customer service for pricing
Maintenance Cost	Product is designed for limited use
Warranty	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
Don/Doff Information	See Level A instruction manual for instructions on donning and doffing
Use/Reuse	It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.
Launderability	See instruction manual for instructions on donning and doffing
Accessories	Butyl gloves (with inner gloves), exhaust valves

Special Requirements

Training Requirements	Some instruction required

Training Available	Training video, Suit Smart CD
Manuals Available	Instruction manual available
Surveillance Testing Requirements	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
Support Equipment	Appropriate respiratory equipment
Testing Information	First fabric to pass ASTM 1001 Test Battery with no permeation breakthrough after 8 h
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name
ID# 55

Kappler Responder® Total Encapsulating Level A Suit, NFPA 1991

Technology	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Stock Number	41560 (front entry) Pictured is 41550
Protection Type	Level A, Percutaneous (vapor protective)
Equipment Category	Level A, total encapsulating NFPA 1991 (vapor protective) Responder® suit, expanded back, covered exhaust valves, gloves, and sock boots
Availability	In stock
Current User(s)	Fire departments, HAZMAT response teams, and law enforcement
Manufacturer	Kappler Safety Group 70 Grimes Drive Guntersville, AL 35976 www.kappler.com POC: Kendra Barclay 256–505–4000 (Tel) 256–582–1163 (Fax) email: kbarclay@kappler.com
Manufacturer Type	Domestic
Developer	Kappler Protective Apparel and Fabrics 70 Grimes Drive Gunterville, AL 35976
Source	www.kappler.com
Certification	NFPA 1991, 2000 Edition (to comply with NFPA 1991 certification), must be worn with an aluminized overcover; 65160, fiberglass. NFPA 1991, 2000 Certified Responder Level A garment.

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	HD, GB, GD, L, and VX
Biological Warfare (BW) Agents Protected Against	Not applicable
Toxic Industrial Materials (TIMs) Protected Against	POC Kappler for permeation guides

Duration of Protection	POC Kappler for permeation guides
Recommended Use(s)	Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

Physical Parameters

Sizes Available	S, M, L, XL, 2X, and 3X
Weight	Average packaging weight is 9 lb
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Construction Type	Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabrics.
Color	Blue

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

Unit Cost

POC customer service for pricing

Maintenance Cost

Product is designed for limited use

Warranty

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

Don/Doff Information

See Level A instruction manual for instructions on donning and doffing

Use/Reuse

See Level A instruction manual for suggestions on decontamination

Launderability

See Level A instruction manual for suggestions on decontamination

Accessories

Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements

Some instruction required

Training Available

Level A instruction manual, training video, and Suit Smart CD

Manuals Available	Level A instruction manual
Surveillance Testing Requirements	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
Support Equipment	Appropriate respiratory equipment
Testing Information	See attached permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name
ID# 56

Kappler Total Encapsulating Level B Suit

Picture Not Available

Technology

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.

Stock Number

3T545

Protection Type

Level B, Percutaneous

Equipment Category

Level B, totally encapsulating flat back suit, rear zipper with storm flap, PVC visor, covered exhaust port opening, attached overboots, and side air inlet

Availability

In stock

Current User(s)

Emergency HAZMAT teams, fire departments, and law enforcement

Manufacturer

Kappler Safety Group
70 Grimes Drive
Guntersville, AL 35976
www.kappler.com
POC: Kendra Barclay
256–505–4000 (Tel)
256–582–1163 (Fax)
email: kbarclay@kappler.com

Manufacturer Type

Domestic

Developer

Kappler Protective Apparel and Fabrics
70 Grimes Drive
Gunterville, AL 35976

Source

www.kappler.com

Certification

OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against

HD, GB, GD, and VX

Biological Warfare (BW) Agents Protected Against

Not applicable

Toxic Industrial Materials (TIMs) Protected Against

POC Kappler for permeation guides

Duration of Protection

POC Kappler for permeation guides

Recommended Use(s)

Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups

Physical Parameters

Sizes Available	S–XL, 2X, and 3X
Weight	Average packaging weight is 13 lb
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
Construction Type	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
Color	Tan

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
Unit Cost	POC customer service for pricing
Maintenance Cost	Product is designed for limited use
Warranty	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
Don/Doff Information	See instruction manual for instructions on donning and doffing
Use/Reuse	See instruction manual for suggestions on decontamination
Launderability	See instruction manual for suggestions on decontamination
Accessories	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower

Special Requirements

Training Requirements	Some instruction required

Training Available	Training video, Suit Smart CD
Manuals Available	Not applicable
Surveillance Testing Requirements	Visual Inspections upon receipt from manufacturer, after each use and/or annually, and before each use
Support Equipment	Appropriate respiratory equipment
Testing Information	See permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler CPF 3 Total Encapsulating Level B Suit***

ID# 57

Technology Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.

Stock Number 3T571

Protection Type Level B, Percutaneous

Equipment Category Level B, totally encapsulating expanded back suit, rear zipper with storm flap, PVC visor, two covered exhaust port openings, and sock boots with boot flaps

Availability In stock

Current User(s) Emergency HAZMAT teams, fire departments, and law enforcement

Manufacturer

Kappler Safety Group
70 Grimes Drive
Guntersville, AL 35976
www.kappler.com
POC: Kendra Barclay
256–505–4000 (Tel)
256–582–1163 (Fax)
email: kbarclay@kappler.com

Manufacturer Type Domestic

Developer

Kappler Protective Apparel and Fabrics
70 Grimes Drive
Gunterville, Alabama 35976

Source www.kappler.com

Certification OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against HD, GB, GD, and VX

Biological Warfare (BW) Agents Protected Against Not applicable

Toxic Industrial Materials (TIMs) Protected Against	POC Kappler for permeation guides
Duration of Protection	POC Kappler for permeation guides
Recommended Use(s)	Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups

Physical Parameters

Sizes Available	S–XL, 2X, and 3X
Weight	Average packaging weight is 6 lb
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
Construction Type	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
Color	Tan

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
Unit Cost	Contact customer service for pricing
Maintenance Cost	Product is designed for limited use
Warranty	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
Don/Doff Information	See instruction manual for instructions on donning and doffing
Use/Reuse	See instruction manual for suggestions on decontamination
Launderability	See instruction manual for suggestions on decontamination
Accessories	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower

Special Requirements

Training Requirements	Some instruction required
Training Available	Training video, Suit Smart CD

Manuals Available	Not applicable
Surveillance Testing Requirements	Visual Inspections upon receipt from manufacturer, after each use and/or annually, and before each use
Support Equipment	Appropriate respiratory equipment
Testing Information	See permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler Responder® Total Encapsulating Level B Suit***

ID# 58

Technology	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
Stock Number	41370 (front entry)
Protection Type	Level B, Percutaneous (liquid protective)
Equipment Category	Level B, total encapsulating (liquid protective) suit, flat back, exhaust valves, with PVC face shield
Availability	In stock
Current User(s)	Fire departments, HAZMAT response teams, and law enforcement
Manufacturer	Kappler Safety Group 70 Grimes Drive Guntersville, AL 35976 www.kappler.com POC: Kendra Barclay 256–505–4000 (Tel) 256–582–1163 (Fax) email: kbarclay@kappler.com
Manufacturer Type	Domestic
Developer	Kappler Protective Apparel and Fabrics 70 Grimes Drive Gunterville, AL 35976
Source	www.kappler.com
Certification	OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	HD, GB, GD, L, and VX
Biological Warfare (BW) Agents Protected Against	Not applicable
Toxic Industrial Materials (TIMs) Protected Against	Contact Kappler for permeation guides
Duration of Protection	Contact Kappler for permeation guides

Recommended Use(s) Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

Physical Parameters

Sizes Available S, M, L, XL, 2X, and 3X

Weight One per case

Package Size and Volume Not specified

Power Requirements Not applicable

Material Type Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

Construction Type Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.

Color Blue

Logistical Parameters

Ease of Use Some instruction required

Consumables Not applicable

Maintenance Requirements Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.

Shelf Life Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.

Transportability Not applicable

Operational Limitations There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Environmental Conditions

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

Unit Cost

POC customer service for pricing

Maintenance Cost

Product is designed for limited use

Warranty

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

Don/Doff Information

See Level B instruction manual for instructions on donning and doffing

Use/Reuse

See Level B instruction manual for suggestions on decontamination

Launderability

See Level B instruction manual for suggestions on decontamination

Accessories

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements

Some instruction required

Training Available	Level B instruction manual, training video, and Suit Smart CD
Manuals Available	Level B instruction manual
Surveillance Testing Requirements	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
Support Equipment	Appropriate respiratory equipment
Testing Information	See permeation guides
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler CPF 4 Total Encapsulating Level B Suit***

ID# 59

Technology Multi-film composite barrier film laminated to a high strength 2.3 oz polypropylene substrate

Stock Number 4T373

Protection Type Level B, Percutaneous

Equipment Category Level B, total encapsulating flat back, rear zipper with storm flap, PVC visor, covered exhaust port opening, attached overboots of suit material, elastic wrist (no gloves), side air inlet, and visor

Availability In stock

Current User(s) REC's Customers:
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Dept of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

Manufacturer Kappler Safety Group
70 Grimes Drive
Guntersville, AL 35976
www.kappler.com
POC: Kendra Barclay
256–505–4000 (Tel)
256–582–1163 (Fax)
email: kbarclay@kappler.com

Manufacturer Type Domestic

Developer Kappler Protective Apparel and Fabrics
70 Grimes Drive
Gunterville, AL 35976

Source www.kappler.com

Certification OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against None

Biological Warfare (BW) Agents Protected Against	Not applicable
Toxic Industrial Materials (TIMs) Protected Against	Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide
Duration of Protection	>480 min
Recommended Use(s)	Kappler recommends that CPF 4 be used in chemical applications where the risk of coming in POC with chemical is high splash

Physical Parameters

Sizes Available	S through 3XL
Weight	22 lb/10 kg, 6 per case
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Multi-layer barrier film laminated to a 2.3 oz polypropylene substrate
Construction Type	Strapped seams, elastic wrist, and zipper with double storm flap with Velcro closure
Color	Green

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	Temperature service range: -85 °F to 200 °F

Environmental Conditions	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
Unit Cost	POC customer service for pricing
Maintenance Cost	Product is designed for limited use
Warranty	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
Don/Doff Information	See instruction manual for instructions on donning and doffing
Use/Reuse	It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.
Launderability	See instruction manual for instructions on donning and doffing
Accessories	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements	Some instruction required

Training Available	Training video available
Manuals Available	Instruction manual available
Surveillance Testing Requirements	Visual inspections upon receipt from manufacturer, after each use, and before the next use
Support Equipment	Appropriate respiratory equipment
Testing Information	ASTM D751 Test Battery
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable

General

Name ***Kappler CPF 4 Total Encapsulating Level B Suit***

ID# 60

Technology Multi-film composite barrier film laminated to a high strength 2.3 oz polypropylene substrate

Stock Number 4T571

Protection Type Level B, Percutaneous

Equipment Category Level B, total encapsulating, rear zipper with double storm flap, expanded back, PVC visor, covered exhaust port opening, attached sock boot with boot storm flap (sock boots to be worn inside regular work boots), and side air inlet

Availability In stock

Current User(s) REC's Customers:
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Department of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

Manufacturer Kappler Safety Group
70 Grimes Drive
Guntersville, AL 35976
www.kappler.com
POC: Kendra Barclay
256–505–4000 (Tel)
256–582–1163 (Fax)
email: kbarclay@kappler.com

Manufacturer Type Domestic

Developer Kappler Protective Apparel and Fabrics
70 Grimes Drive
Gunterville, AL 35976

Source www.kappler.com

Certification OSHA 1910.132 and OSHA 1910.120

Operational Parameters

Chemical Warfare (CW) Agents Protected Against None

Biological Warfare (BW) Agents Protected Against Not applicable

Toxic Industrial Materials (TIMs) Protected Against	Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide
Duration of Protection	>480 min
Recommended Use(s)	Kappler recommends that CPF 4 be used in chemical applications where the risk of coming in POC with chemical is high splash

Physical Parameters

Sizes Available	S through 3XL
Weight	31 lb/10 kg, 6 per case
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Multi-layer barrier film laminated to a 2.3 oz polypropylene substrate
Construction Type	Strapped seams, elastic wrist, and zipper with double storm flap with Velcro closure
Color	Green

Logistical Parameters

Ease of Use	Some instruction required
Consumables	Not applicable
Maintenance Requirements	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
Shelf Life	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "training use only" be considered when they no longer pass the visual inspection and/or pressure test.
Transportability	Not applicable
Operational Limitations	Temperature service range: -85 °F to 200 °F

Environmental Conditions	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics—Low Temperature Bend Test." This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
Unit Cost	POC customer service for pricing
Maintenance Cost	Product is designed for limited use
Warranty	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
Don/Doff Information	See instruction manual for instructions on donning and doffing
Use/Reuse	It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.
Launderability	See instruction manual for instructions on donning and doffing
Accessories	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

Special Requirements

Training Requirements	Some instruction required

Training Available	Training video available, Suit Smart CD
Manuals Available	Instruction manual available
Surveillance Testing Requirements	Visual inspections upon receipt from manufacturer, after each use, and before the next use
Support Equipment	Appropriate respiratory equipment
Testing Information	ASTM D751 Test Battery
Applicable Regulations	OSHA 1910.132 and OSHA 1910.120
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not applicable